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**United States Patent** [19][11] **Patent Number:** **5,151,032****Igawa**[45] **Date of Patent:** **Sep. 29, 1992**[54] **MAGNETOPHORETIC DISPLAY PANEL**[75] **Inventor:** **Tatsuya Igawa, Kanagawa, Japan**[73] **Assignee:** **Kabushiki Kaisha Pilot, Tokyo, Japan**[21] **Appl. No.:** **551,345**[22] **Filed:** **Jul. 12, 1990**[51] **Int. Cl.<sup>5</sup>** ..... **B43L 1/00**[52] **U.S. Cl.** ..... **434/409**[58] **Field of Search** ..... 434/309, 409; 346/74.3, 346/74.7; 428/309; 40/449; 446/132[56] **References Cited****U.S. PATENT DOCUMENTS**

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A magnetophoretic display panel comprising a plurality of cells that are sandwiched between two substrates and each of which is filled with a liquid dispersion comprising magnetic particles, a dispersion medium, a colorant and, optionally, a thickener. The magnetic particles are such that:

(A) at least 90 wt. % of them have a particle size of 10–150  $\mu\text{m}$ ;

(B) they have an apparent density of 0.5–1.6  $\text{g}/\text{cm}^3$ ; and

(C) they have a saturation magnetization of 40–150  $\text{emu}/\text{g}$ .

**20 Claims, 2 Drawing Sheets**